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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,295	05/29/2001	Hiroyuki Hebiguchi	9281-3980	7331

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Brinks Hofer Gilson & Lione
P.O. Box 10395
Chicago, IL 60610

EXAMINER
LEWIS, DAVID LEE

ART UNIT	PAPER NUMBER
2673	

DATE MAILED: 03/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/870,295	Hebiguchi
Examiner	**Art Unit**
David L. Lewis	2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *May 29, 2001* .

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-18* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Title: Active Matrix Liquid Crystal Display Suitable For High Definition Display, and Driving Method Thereof

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. **Claims 1-18 are rejected under 35 U.S.C. 102(a) as being anticipated by Fujiyoshi et al. (6323871).**

3. **As in claim 1, Fujiyoshi et al**. teaches of a liquid crystal display comprising: a pair of substrates which face each other and a liquid crystal held therebetween, **column 1 lines 39-56**; a plurality of source lines and a plurality of gate lines arranged in a matrix on one of the pair of substrates, **figure 17 items G and S**, the plurality of source lines each being divided into two groups in a direction of extension of the source line, **figure 17 items Sd1-Sd4 and Sd5-Sd8**; a first source driver to apply image signals to one group of the divided source lines, **figure 17 item Sd1**; a second source driver

to apply image signals to the other group of the divided source lines, **figure 17 item Sd5**; a first gate driver to apply scanning signals to the plurality of gate lines that extend across the one group of the divided source lines, **figure 17 item Gd1**; a second gate driver to apply scanning signals to the plurality of gate lines that extend across the other group of the divided source lines, **figure 17 item Gd2**; and a switching unit to switch and allocate an image signal from each of the first and second source drivers to a predetermined number of the source lines, **figure 8**.

4. **As in claim 10, Fujiyoshi et al**. teaches a method of increasing ease of writing in a liquid crystal display, the method comprising: selecting two sets of image signals, each image signal selected from a plurality of image signals, **figure 17 items Sd1-Sd4 and Sd5-Sd8**; applying each set of image signals to one of two groups of divided source lines, **figure 17 items Sd1-Sd4 and Sd5-Sd8**; and applying scanning signals to two groups of gate lines, each group of gate lines extending across a corresponding group of the divided source lines, **figure 17 item Gd1 and Gd2**.

5. **As in claim 2, Fujiyoshi et al**. teaches wherein the predetermined number of source lines is two to four, column 8 lines 26-30, column 12 lines 10-17. **As in claim 3, Fujiyoshi et al**. teaches wherein the predetermined number of source lines is three, column 8 lines 26-30. **As in claim 4, Fujiyoshi et al**. teaches wherein image signals having inverse polarities are output from adjacent outputs of the

first and second source drivers, column 12 lines 35-41. **As in claim 5, Fujiyoshi et al**. teaches wherein image signals having inverse polarities are output from opposing outputs of the first and second source drivers, column 12 lines 35-41. **As in claim 6, Fujiyoshi et al**. teaches wherein scanning signals are applied substantially symmetrically by each gate driver, column 8 lines 30-37. **As in claim 7, Fujiyoshi et al**. teaches wherein the first gate driver applies scanning signals starting from a gate line most proximate to the first source driver and proceeding towards a gate line most distal to the first gate driver, column 7 lines 43-57. **As in claim 8, Fujiyoshi et al**. teaches wherein the second gate driver applies scanning signals starting from a gate line most proximate to the second source driver and proceeding towards a gate line most distal to the second gate driver, column 7 lines 43-57. **As in claim 9, Fujiyoshi et al**. teaches wherein each scanning signal applied by the first gate driver is substantially simultaneous with the symmetric scanning signal applied by the second gate driver, column 8 lines 14-37.

6. **As in claim 11, Fujiyoshi et al**. teaches wherein the selecting comprising demultiplexing each image signal from the plurality of image signals, figure 9 item 20. **As in claim 12, Fujiyoshi et al**. teaches wherein further comprising dividing the source lines into two groups of source lines and the gate lines into two groups gate lines, figure 17 item Sd1 and Sd2, figure 17 item Gd1 and Gd2. **As in claim 13, Fujiyoshi et al**. teaches wherein further comprising inverting polarities of adjacent image signals

of each of the two groups of image signals, column 12 lines 35-41. **As in claim 14, Fujiyoshi et al**. teaches wherein further comprising applying one scanning signal to one of the two groups of gate lines substantially simultaneously with applying one scanning signal to the other of the two groups of gate lines, figure 17 item Sd1 and Sd2, figure 17 item Gd1 and Gd2. **As in claim 15, Fujiyoshi et al**. teaches wherein further comprising applying the scanning signals substantially symmetrically between the two groups of gate lines, column 8 lines 30-37. **As in claim 16, Fujiyoshi et al**. teaches wherein further comprising applying the scanning signals to the two groups of gate lines such that the substantially simultaneously applied scanning signals progressively approach each other, figure 17 item Sd1 and Sd2, figure 17 item Gd1 and Gd2, column 8 lines 3-37. **As in claim 17, Fujiyoshi et al**. teaches wherein further comprising applying the scanning signals to the two groups of gate lines such that the substantially simultaneously applied scanning signals remain the same distance from each other, figure 17 item Sd1 and Sd2, figure 17 item Gd1 and Gd2, column 8 lines 3-37. **As in claim 18, Fujiyoshi et al**. teaches wherein further comprising balancing a writing time of the image signals on the selected source lines with a capacitance formed at areas of overlap of the source lines and gate lines to provide a desired increase in ease of writing, column 7 lines 1-25.

Title: Active Matrix Liquid Crystal Display Suitable For High Definition Display, and Driving Method Thereof

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. 5598180, 5903250, 6181312, 5892493, 6333729.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **David L. Lewis** whose telephone number is **(703) 306-3026**. The examiner can normally be reached on MT and THF from 8 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached on (703) 305-4938. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:
Commissioner of Patents and Trademarks
Washington, D.C. 20231
or faxed to:
(703) 872-9314 (for Technology Center 2600 only)
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

BIPIN SHALWALA
SUPERVISORY PATENT E[illegible]
TECHNOLOGY [illegible]